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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,581	04/11/2006	Cornelis Gerardus Schriks	NL03 1276 US1	5243
65913	7590	05/13/2008		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER NGUYEN, JOSEPH H	
			ART UNIT 2815	PAPER NUMBER
			NOTIFICATION DATE 05/13/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/575,581	Applicant(s) SCHRIKS ET AL.	
	Examiner JOSEPH NGUYEN	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 5-10 in the reply filed on 04/28/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Therefore, claims 5-10 are hereby prosecuted whereas claims 1-4 are withdrawn from consideration.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Objections

3. Claims 5 and 7 are objected to because of the following informalities:

In claim 5, line 9, the term "interconnects" should be corrected to read, "the interconnects".

In claim 7, line 2, the term "contact pads" should be corrected to read, "the contact pads".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the interconnection layer" in line 8. There is insufficient antecedent basis for this limitation in the claim. The term "interconnection layer" is not previously recited in claim 5. For the sake of examination, it is assumed this refers to the pattern connection layer. Further, it is not understood whether the terms "an external carrier" and "an element" in lines 5-6 refers to "the carrier" and "the element" previously recited in claim 5 or to new carrier and new element.

Claim 6 recites the limitation "the bond pads" in line 1. There is insufficient antecedent basis for this limitation in the claim. The term "bond pads" is not previously recited in claim 6.

Claims 7-10 are also rejected due to their dependency upon the rejected base claim 5.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2815

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 5, 6, 8 and 10, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Kloen et al. (U.S. patent No. 7,176,582), hereinafter "Kloen".

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 5, Kloen discloses in figure 4 an electronic device provided with an electric element (20) and an encapsulation (40) of electrically insulating material (column 1, line 35) and a carrier (30) with a first side (1) facing the element (20) and an opposed second side (2), said carrier comprising a pattern connection layer (22); contact pads (13) for coupling to an external carrier or an element, and an intermediate layer (12) of electrically conductive material (column 4, line 33), which is patterned so as to create interconnects between the connection layer (22) and the contact pads (13), the interconnects are mutually isolated areas (15), the encapsulation (40) extending into the isolation areas, wherein a protective layer (17) is present at the second side (2) of the carrier (30) so as to protect an interface between the intermediate layer (12) and the contact pads (13). See column 5, lines 10-35.

Art Unit: 2815

It is noted that the element 17 is the layer of electrically insulating material (column 5, lines 17-20) and formed on the second side of the carrier 30. As such, this layer 17 can function as the claimed protective layer. Further, the protective layer 17 covers both the contact pads 13 and the intermediate layer 12 such that the protective layer 17 can also cover and protect an interface between the intermediate layer and the contact pads therein.

Regarding claim 6, Kloen discloses in figure 4 the contact pads (21) and any other conducting elements (11) at the first side (1) of the carrier (30) are mechanically anchored in the encapsulation (40).

Regarding claim 8, Kloen discloses in figure 4 the protective layer (17) laterally extends so as to cover the intermediate layer (11).

Regarding claim 10, Kloen discloses in figure 4 the electric element (20) is a semiconductor device (column 4, line 6) that is at least partially encapsulated in the encapsulation (40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over figure 4 of Kloen in view of figure 2 of Kloen.

Regarding claim 7, Kloen discloses in figure 4 substantially all the structure set forth in claim 7 except for at least a number of the contact pads being laterally displaced with respect to the corresponding bond pads. However, figure 2 of Kloen shows at least a number of the contact pads (13) being laterally displaced with respect to the corresponding bond pads (22). In view of such teaching, it would have been obvious at the time of the present invention to modify figure 4 by having at least a number of the contact pads being laterally displaced with respect to the corresponding bond pads so as to alternatively form contact pads in a flip chip technique, which merely depends upon a specific design of a semiconductor device herein.

Allowable Subject Matter

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The reference (s) of record do not teach or suggest, either singularly or in combination at least the limitation of "the protective layer is substantially present between the masking layer and the intermediate layer such that on perpendicular projection of the protective layer on the masking layer there is a substantial overlap" for claim 9.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 8:30 am- 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Nguyen/
Primary Examiner, Art Unit 2815

May 6, 2008.